On Demand Source Capture

Indoor Air Quality Solutions

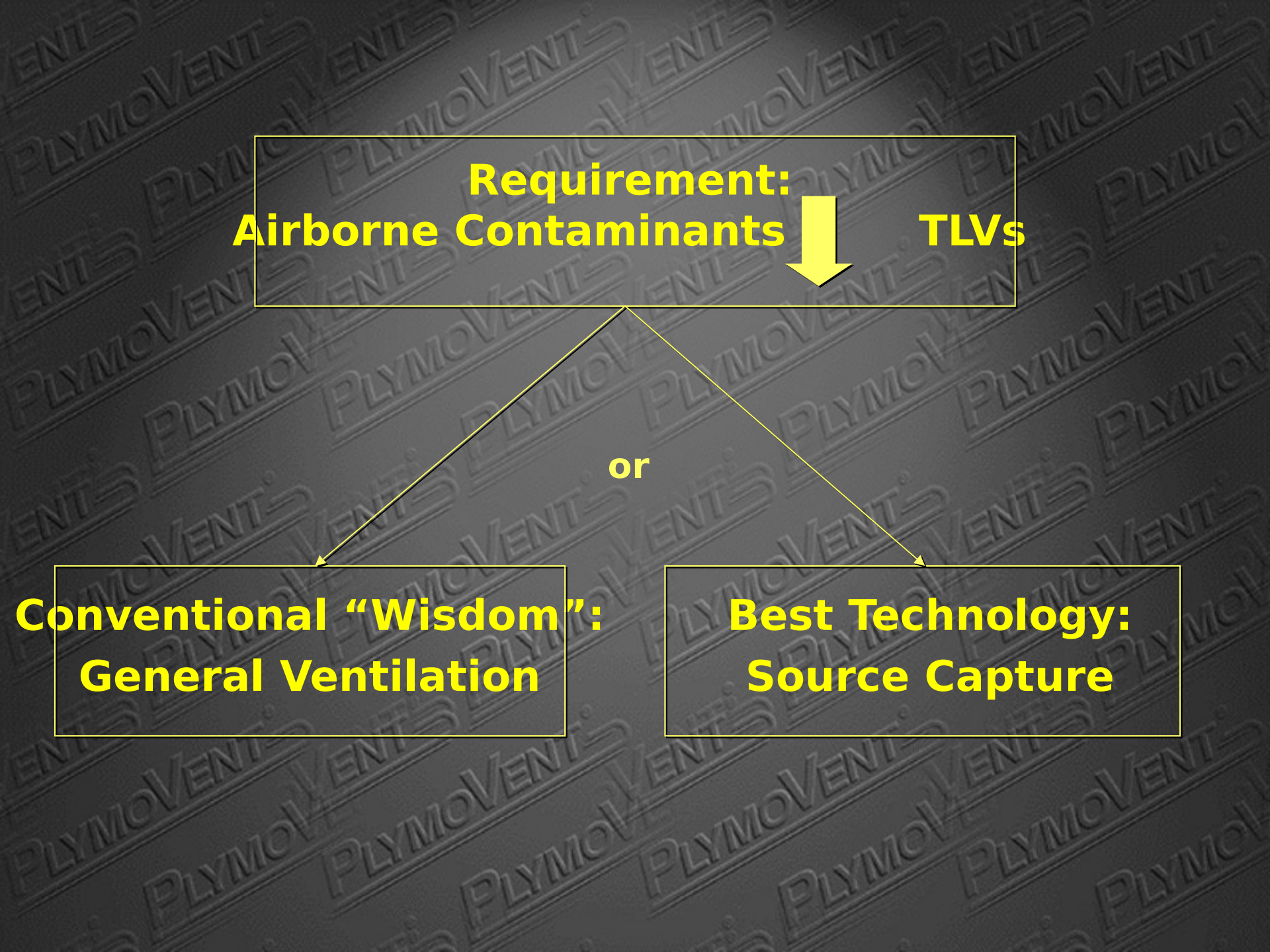
Lars Fritz

Plymovent Corp

What Do We See?

Welding Machining Service

Gases Fumes Smoke Exhaust


Requirement:
Airborne Contaminants
TLVs
or
Conventional “Wisdom”:
General Ventilation
Best Technology:
Source Capture

Tank.wmv

On Demand Source Capture advantages

- ***Reduced Cap Ex***
- ***Reduced Energy Consumption***
- ***Improved Health and Safety***

On Demand Source Capture

Reduced Cap Ex

New construction investment in

On Demand Source Capture Equipment

is typically smaller than

savings in HVAC Equipment

On Demand Source Capture

Reduced Energy Consumption

For maintenance facility:

Hourly air exchanges

Reduced from 6 to 2

On Demand Source Capture

Improved Health & Safety

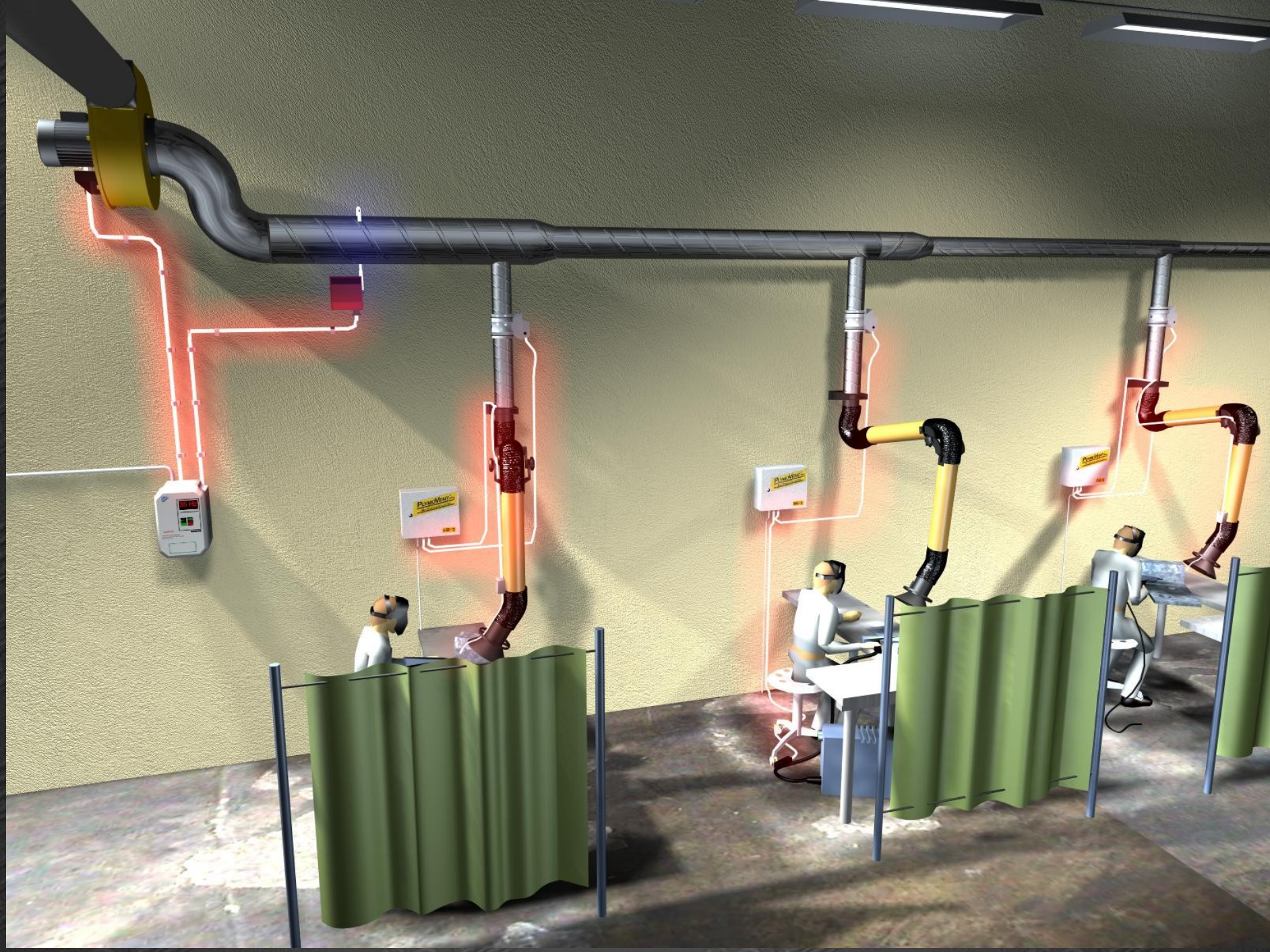
Minimized exposure to

Operator in

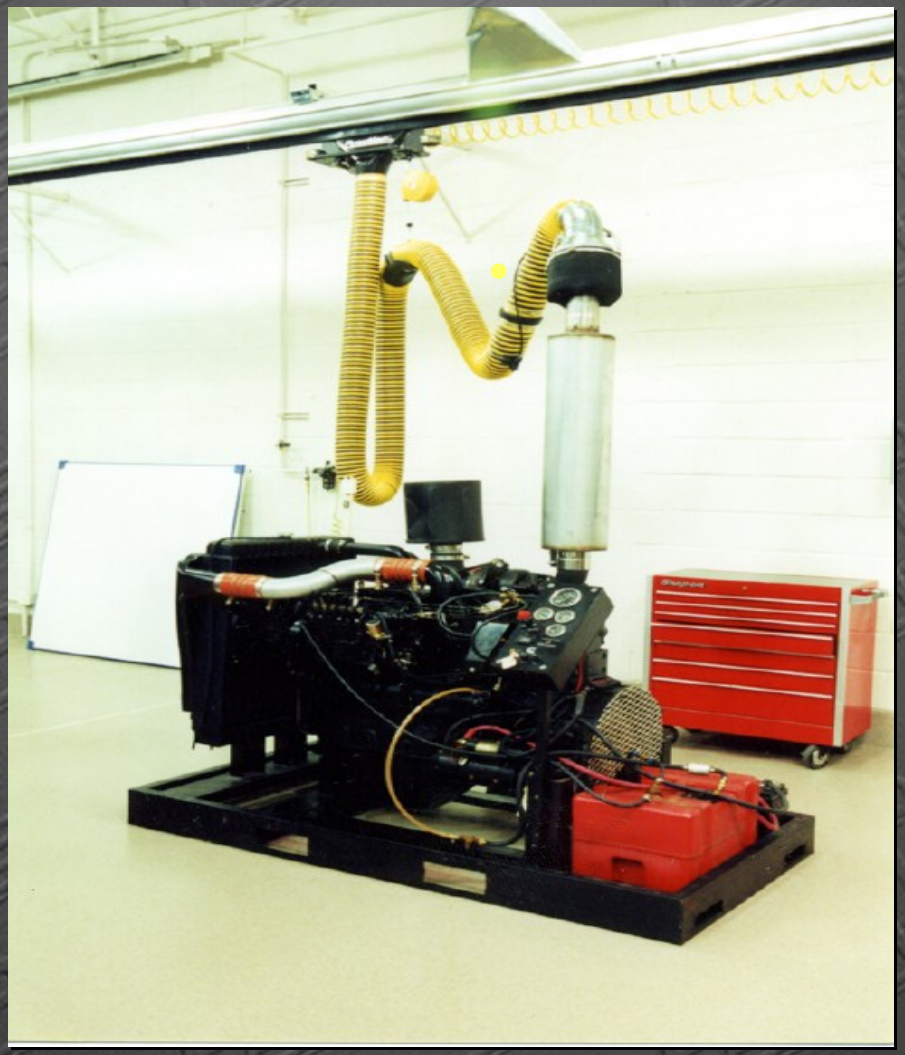
Breathing Zone

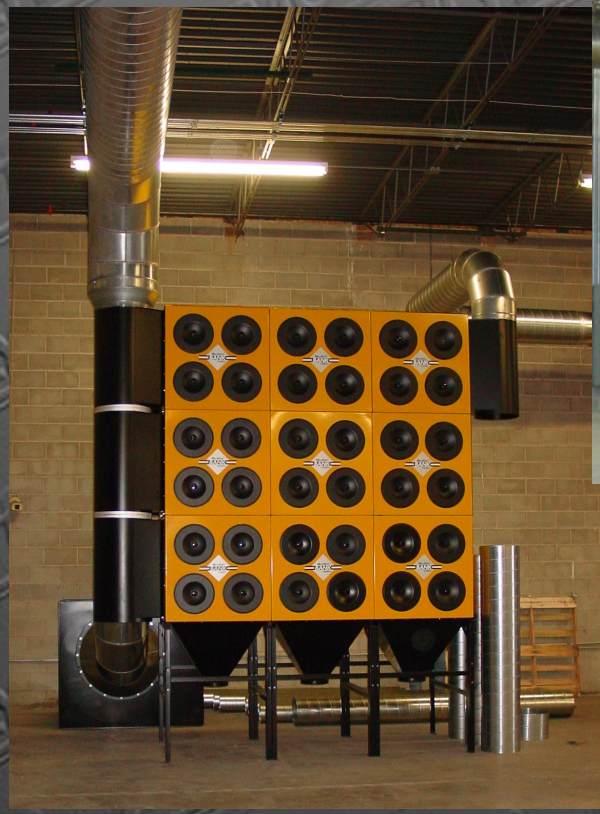
Source Capture Demand Control Applications

- ***Welding Smoke Capture***
- ***Vehicle Exhaust Extraction***
- ***Dust Collection***
- ***Mist Collection***
- ***Fume Ventilation***



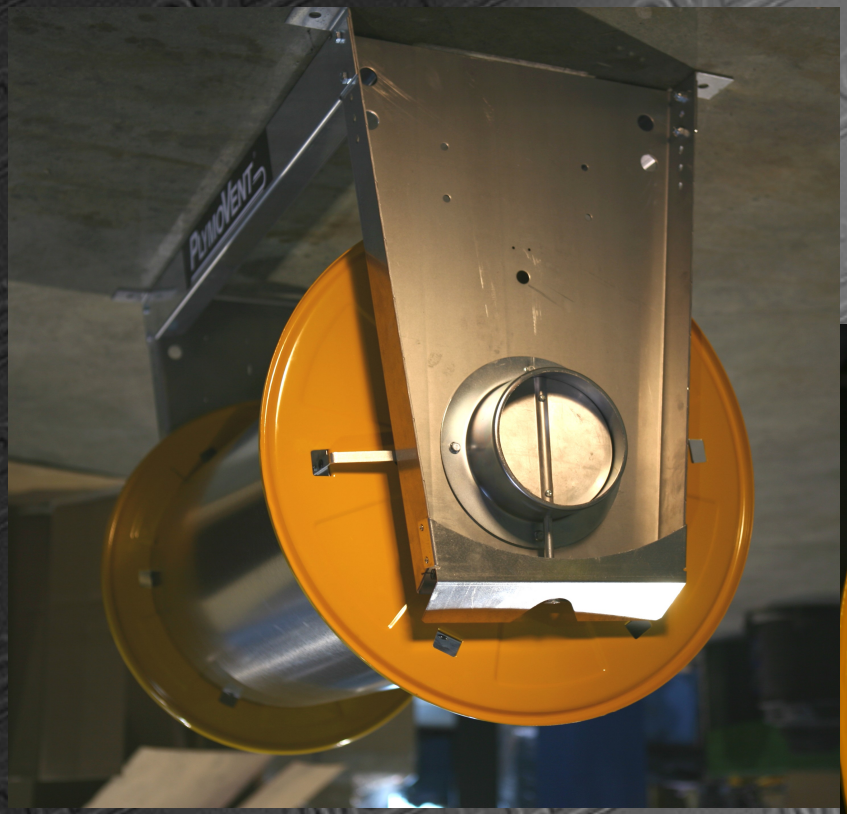
Vehicle Exhaust-Pneumatic Nozzle

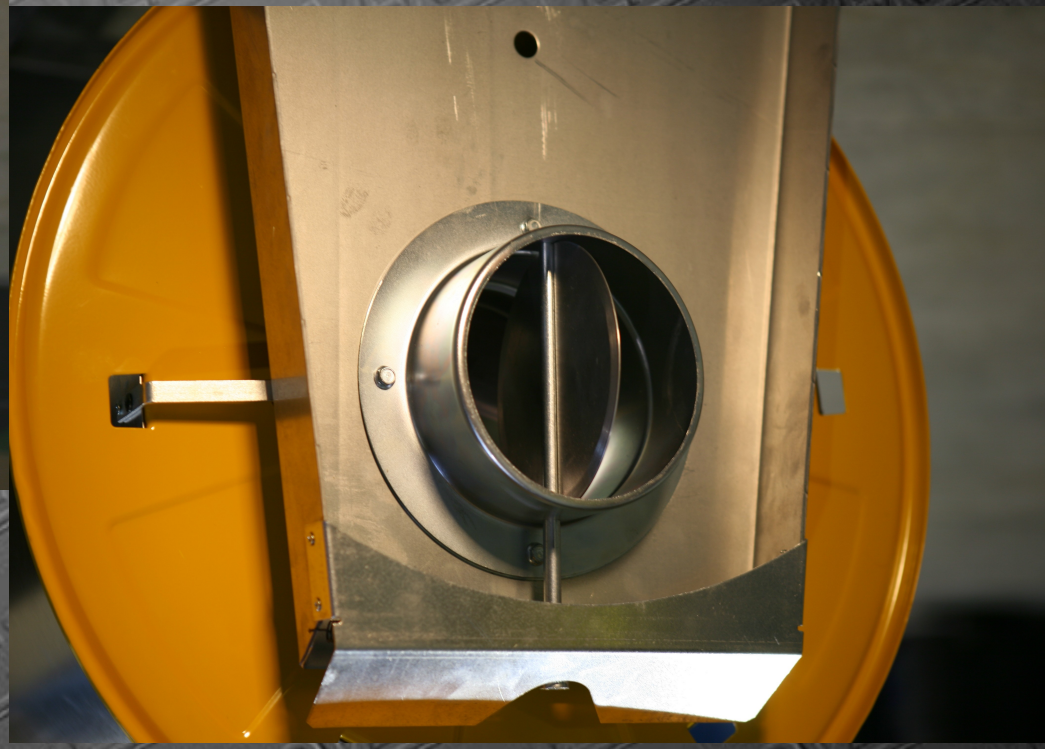




MultiSmart Arm
Snorkel

PLYMOVENT


PlymoVent



Emergency Vehicle Ventilation

Drive-Thru Station

Vehicles Parked in Tandem

PLYMOVENT®

Intelligent Control Selection Guide

Auto Start Mechanisms

•Micro Switch for Hose Reels (MSR-24)

•Pressure Switch for sensing engine starting (PC-500)

•Inductive Sensor for welding (MCC-005)

•Light sensor for welding (LS-12)

These system initiation devices are designed for starting systems and stopping systems so that operators can go about their normal tasks and the source capture systems become a part of their operations. This maximizes effectiveness, minimizes operating cost and maintains operator productivity all while improving air quality in a facility.

Automated Dampers

•Automated dampers
-4" MD-100
-6" MD-160
-8" MD-200
-10" MD-250
-12" MD-315
-16" MD-400

•Heavy duty construction for high static pressure

•Low Voltage 24 volt control with ICE-LC

•Easy Installation with built in seal

•ICE-LC has built in stepdown transformer and timer

Automated dampers in conjunction with auto start components allow for use of the source capture systems needed. This maximizes system effectiveness and minimizes operator errors and minimizes energy use.

VFD

•Variable Frequency Drives for 1.5 HP to 30 HP, 240 volt and 460 volt

•Built in set-up for manual control, automated control using a pressure transmitter and remote start/stop.

A VFD used in conjunction with a pressure transmitter, automated dampers and damper controls will regulate a Plymovent source capture system to provide the right amount of air only at the locations where it is needed. For example, a 30 HP system may only run at 5 to 10 HP because of the actual arc time of the welding operations and modulation of dampers putting ventilation

Other Controls

•M-1000 control used for central control of fan for multiple source capture drops with automated on/off devices. Used in conjunction with ES-90 or ASE-12 and initiation devices the fan will start automatically and shut down automatically. There is also an adjustable overrun timer to delay shut down of the fan.

•SA-24 used to control Fan and Light Kit from switches mounted to the hood of an arm.

•ES-90 used for control of individual fan on individual source capture device using automatic on/off device. A manual override is also included.

Micro Switch

Pressure Switch

Automated Dampers 4",6",8",12",16"

ICE-LC Damper Controls (replaces ASE-12)

Light Sensor

Inductive Sensor

VFD

Pressure Transmitter

M-1000 For Central Fan

SA-24 for Fan and Light Kit operation From Arm

ES-90

Energy Savings Control Solutions